Translation

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SEN-A0203P	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2003/013768	International filing date (*day/month/year*) 28 October 2003 (28.10.2003)	Priority date (*day/month/year*) 28 October 2002 (28.10.2002)
International Patent Classification (IPC) or national classification and IPC G01N 27/447, B01D 57/02		
Applicant KATAYANAGI INSTITUTE		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

   a. ☐ *(sent to the applicant and to the International Bureau)* a total of _____ sheets, as follows:

      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 21 April 2004 (21.04.2004)	Date of completion of this report 03 September 2004 (03.09.2004)
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

national application No.
PCT/JP2003/013768

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

☐ international search (under Rules 12.3 and 23.1(b))

☐ publication of the international application (under Rule 12.4)

☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ The international application as originally filed/furnished

☐ the description:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the claims:

pages _____, as originally filed/furnished

pages* _____, as amended (together with any statement) under Article 19

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the drawings:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP 03/13768

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	4, 5, 9	YES
	Claims	1-3, 6-8, 10	NO
Inventive step (IS)	Claims		YES
	Claims	1-10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

2. Citations and explanations

Document 1: JP 2-151758 A (Bio Rad Laboratories, Inc.), 11 June 1990, & US 4874490 A & EP 366897 A

Document 2: JP 61-288148 A (Shimadzu Corp.), 18 December 1986

Document 3: WO 00/52458 A (Isao KURUBE), 08 September 2000, & EP 1162454 A

Document 1 (page 4, lower left column, line 20 to lower right column, line 19 and page 5, lower right column, line 15 to page 7, upper left column, line 2, and fig. 2-4, etc.) discloses an electrophoretic separation method and an electrophoretic separation device for controlling the movement of a fluid substance and/or a substance that is contained within a fluid substance from a first gel into a second gel, characterized in that said method and device comprise: a step (a), wherein a fluid substance to be controlled and/or a fluid substance that contains a substance to be controlled is/are introduced into the first gel, and said fluid substance and/or said substance that is contained within a fluid substance is/are held within the first gel (therein, the first gel and the second gel are connected via a interstitial space, and an electrically insulated layer of a gas or the like which prevents the movement of the aforementioned fluid

substance and/or the aforementioned substance that is contained within a fluid substance into the interstitial space is disposed within the interstitial space); a step (b), wherein an interstitial gel which allows the movement of the aforementioned fluid substance and/or the aforementioned substance that is contained within a fluid substance into the interstitial space is introduced into the interstitial space so as to replace the electrically insulated layer that was disposed within the interstitial space; and a step (c), wherein the fluid substance and/or the substance that is contained within a fluid substance is/are moved from the first gel into the second gel via the interstitial space.

Document 2 (page 1, lower right column, line 12 to page 3, upper left column, line 7 and fig. 1-3, etc.) discloses an electrophoretic separation method and an electrophoretic separation device for controlling the movement of a fluid substance and/or a substance that is contained within a fluid substance from an electrophoretic gel of a first dimension into an electrophoretic gel of a second dimension, characterized in that said method and device comprise: a step (a), wherein a fluid substance to be controlled and/or a fluid substance that contains a substance to be controlled is/are introduced into the electrophoretic gel of a first dimension, and said fluid substance and/or said substance that is contained within a fluid substance is/are held within the electrophoretic gel of a first dimension (therein, the electrophoretic gel of a first dimension and the electrophoretic gel of a second dimension are connected via a interstitial space, and an insulating zone which prevents the movement of the aforementioned fluid substance and/or the aforementioned substance that is contained within a fluid substance into the interstitial space is disposed within the interstitial space); a step (b), wherein an conductive zone which

allows the movement of the aforementioned fluid substance and/or the aforementioned substance that is contained within a fluid substance into the interstitial space is introduced into the interstitial space so as to replace the insulating zone that was disposed within the interstitial space; and a step (c), wherein the fluid substance and/or the substance that is contained within a fluid substance is/are moved from the electrophoretic gel of a first dimension into the electrophoretic gel of a second dimension via the interstitial space.

In addition, it would be obvious to conduct a step for separating by means of electrophoresis, a reaction step for staining or the like and a step for detecting the separated substances when conducting two-dimensional electrophoresis.

Consequently, the inventions that are set forth in claims 1 to 3, 6 to 8 and 10 lack novelty.

Document 3 (page 10, line 10 to page 11, line 4 and fig. 1, etc.) discloses an electrophoretic analysis method and an electrophoretic analysis device, wherein the spaces where the separation medium of a first dimension is stored and the spaces where the separation medium of a second dimension is stored are grooves and the spaces where the separation medium of a second dimension is stored diverge more than the spaces where the separation medium of a first dimension is stored. Documents 1 to 3 all disclose technology that pertains to two-dimensional electrophoresis; therefore, a person skilled in the art could choose to apply the feature wherein the spaces for the separation media and the like are grooves, as disclosed in document 3, in the inventions that are disclosed in documents 1 and 2, as appropriate.

Consequently, the inventions that are set forth in claims 1 to 10 do not involve an inventive step.